

WHAT IS CLAIMED IS

1. (amended) A process for grinding an outer peripheral surface of a rotated work (10) by a rotary grindstone (22) rotated by
5 a wheel spindle (21),

characterized in that said process comprises the steps of mounting a rotary brush (40) to one side of said rotary grindstone (22) so as to be rotated along with said rotary grindstone (22), grinding said work (10) by said rotary
10 grindstone (22) and then moving said rotary grindstone (22) and said work (10) axially relative to each other, and brushing a ground surface of said work (10) by said rotary brush (40), thereby polishing the ground surface of said work (10).

2. (amended) A process for grinding an outer peripheral surface
15 of a rotated work (10) by a rotary grindstone (22) rotated by a wheel spindle (21),

characterized in that said process comprises the steps of mounting a rotary brush (40) to one side of said rotary grindstone (22) so as to be rotated along with said rotary
20 grindstone (22), grinding said work (10) by said rotary grindstone (22) and then moving said rotary grindstone (22) and said work (10) axially relative to each other, and brushing end edges of a ground surface of said work (10) by said rotary brush (40), thereby removing a ground flash of said work (10).

25 3. (amended) A process for grinding an outer peripheral surface of a rotated work (10) by a rotary grindstone (22) rotated by

a wheel spindle (21),

characterized in that said process comprises the steps of mounting a rotary brush (40) to one side of said rotary grindstone (22) so as to be rotated along with said rotary 5 grindstone (22), grinding said work (10) by said rotary grindstone (22) and then moving said rotary grindstone (22) and said work (10) axially relative to each other, and brushing the entire ground surface of said work (10) from end edges of the ground surface by said rotary brush (40), thereby achieving the 10 removal of a ground flash of said work (10) and the polishing of the ground surface.

4. (amended) A grinding apparatus including a rotary grindstone (22) mounted to a wheel spindle (21) to grind an outer peripheral 15 surface of a work (10) by the rotation of the rotary grindstone (22),

characterized in that a rotary brush (40) is mounted adjacent to said rotary grindstone (22) for brushing the work (10) having a diameter larger than that of said rotary grindstone (22) and ground by said rotary grindstone (22).

20 5. A grinding apparatus according to claim 4, wherein
said rotary brush (40) is formed into a variable-diameter type, so that when said wheel spindle (21) is rotated at a low speed lower than a grinding rotational speed of said rotary grindstone (22), the diameter of said rotary brush (40) is smaller 25 than that of said rotary grindstone (22), but when said wheel spindle (21) is rotated at a speed equal to said grinding

rotational speed, the diameter of said rotary brush (40) is larger than that of said rotary grindstone (22).

6. A grinding apparatus according to claim 5, wherein
said rotary brush (40) is comprised of a brush body (41)
5 mounted adjacent to said rotary grindstone (22), and a brush
element wire (42) embedded in an outer periphery of said brush
body (41), said brush element wire (42) having contraction and
expansion properties provided thereto, so that when said brush
element wire (42) is in a free state, said brush element wire
10 (42) is in a contracted state in which the diameter of said rotary
brush (40) is smaller than that of said rotary grindstone (22),
and when said wheel spindle (21) is rotated at a predetermined
rotational speed or more, said brush element wire (42) is expanded
by a centrifugal force, whereby the diameter of said rotary brush
15 (40) is larger than that of said rotary grindstone (22).

7. A grinding apparatus according to claim 6, wherein
a single or a plurality of resilient bent portions (42a)
are formed on said brush element wire (42) to provide the
contraction and expansion properties to said brush element wire
20 (42).

8. A grinding apparatus according to claim 5, wherein
said rotary brush (40) is comprised of a brush body (41)
mounted adjacent to said rotary grindstone (22), and a brush
element wire (42) embedded in an outer periphery of said brush
body (41), said brush element wire (42) being disposed so that
25 when said brush element wire (42) is in a free state, said element

wire (42) is inclined with respect to a radius line (R) of said brush body (41), so that the diameter of said rotary brush (40) is smaller than that of said rotary grindstone (22), but when said wheel spindle (21) is rotated at a predetermined rotational speed or more, said brush element wire (42) is allowed to rise toward said radius line (R) by a centrifugal force, so that the diameter of said rotary brush (40) is larger than that of said rotary grindstone (22).